REMARKS

The present invention terminates an integrated lead suspension (ILS) tail to an arm electronics (A/E) cable. This design allows plated solder material to be utilized on the ILS pads by providing two degrees of freedom for the solder pads on the ILS tail. The additional degrees of freedom provide compliance between the solder pads that form the solder joints. In addition to providing a cantilever spring action in the ILS tail, the present invention allows each individual pad to move independently out of plane of the tail, as well as providing a twist capability about its axis. In this way, each pad has its own gimbal structure.

In contrast, the *Lennard* reference discloses a flex on suspension (FOS) 37 (Figure 2) that is mounted to the movable arm. Col. 1, lines 33-39. The arm is the "support layer" and the FOS 37 only comprises conductors 148 with an insulator 152 between them and the arm. Col. 3, lines 51-53. The FOS 37 does not have its own support layer, nor is the support layer (i.e., arm) further defined in the *Lennard* specification. This is an important distinction because the opening or window 150 is formed in the insulator 152, but not the arm or support layer. Col. 4, lines 10-11. However, despite window 150, the conductors 148 are still bound together with a shunt 146. Col. 4, lines 20-21. Thus, movement by one conductor 148 moves all of the conductors 148. The conductors 148 cannot move independently.

Erpelding is cumulative to *Lennard* in that the conductors are only supported by the insulator layer. Col. 10, lines 33-35; and col. 12, lines 3-5.

The *Itoh* reference discloses a support layer 110 with a bent tab 11 on which conductors 120 are formed. Figure 1. The conductors 120 are separated from the support layer 110 by an insulator. Col. 3, lines 33-35. Two slits 18a, 18b are formed in tab 11 through both the insulator and the support layer. As shown in Figure 4, the slits allow the two outermost conductors 120a, 120d to deflect away from tab 111. However, all three layers (i.e., the support layer, insulator, and conductor) move together. The conductors 120a, 120d never separate from their respective underlying support layers. Moreover, two of the conductors 120b, 120c are not separated by a slit and are unable to move independently.

Someya is cumulative to *Itoh* in that it only discloses one slit 40 (Figure 2) between its four conductors. Thus, only conductors 22a (Figure 1) are only independently movable relative to conductors 23a. The two conductors 22a are not independently movable relative to each other, nor are the two conductors 22a independently movable relative to each other. Col. 10, lines 33-35; and col. 12, lines 3-5.

All three independent claims of the present invention (Claims 1, 11, and 21) require the ILS to have a tail comprising three different layers (i.e., a support layer, an insulator, and a conductor), and the support layer to have an aperture. *Lennard's* tail or FOS 137 is composed of only two layers (i.e., insulator 152 and conductors 148), so it cannot have an aperture formed in a non-existent layer. *Lennard* cannot satisfy even the most basic elements of Applicant's claims and is thereby readily overcome.

In addition to these requirements, each claim also contains language that distinguishes *Itoh*. For example, Claim 1 now requires the aperture to allow "all of the second ends of the conductors to move independently with respect to other ones of the second ends of the conductors." In contrast, *Itoh* only discloses two slits 18 among its four conductors 120. It is impossible for conductors 120b, 120c to move independently since they are formed on the same platform. Thus, Claim 1 is clearly distinguishable over *Itoh* and is now in condition for allowance.

Independent Claim 11 was amended to incorporate the language of canceled Claim 12. Claim 11 now requires "the support layer [to] define[] a plane, and wherein the second ends of the conductors are free to move out of the plane independently with respect to the other ones of the second ends of the conductors." *Itoh* cannot satisfy this requirement since all of its conductors 120 are permanently mounted to the underlying support layer of tab 111. In other words, the conductors always move with the support layer and cannot move out of the plane defined by the support layer. Claim 11 is not anticipated by *Itoh* and is now allowable over that reference.

Independent Claim 21 requires the support layer to define a plane and has "an asymmetrical opening that is contoured to a shape of all of the second ends of the conductors." *Itoh* only has two slits for four conductors, and they are not contoured to the shape of any of the conductors. Moreover, Claim 21 requires "a plurality of apertures for accommodating independent gimbal movement of each of the second ends of the conductors, such that each of the second ends of the conductors have at least two degrees of freedom with respect to other ones of the second ends of the conductors." Thus, like Claim 1, all of the conductors move independently. Only two of *Itoh's* conductors (i.e., 120a, 120d) move independently. Claim 21 is easily distinguished over *Itoh* and is now in condition for allowance.

The dependent claims further distinguish the cited prior art. For example, Claims 2 and 22 track the language of canceled Claim 12 (now in Claim 11). Claims 4, 14, and 24 state that, "the second ends of the conductors are free to twist about their respective axes independently with respect to the other ones of the second ends of the conductors." Likewise, Claims 5 and 15 state that "the second ends of the conductors are free to gimbal in at least two degrees of freedom with respect to the other ones of the second ends of the conductors." None of the cited references show or describe the ability to twist.

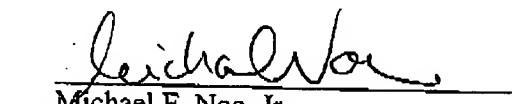
Claims 6 and 16 define the aperture as "a single rectangular opening formed in the support layer for accommodating independent movement of all of the second ends of the conductors." *Itoh* only discloses slits, not a rectangular opening. Moreover, each slit only accommodates the movement of one conductor. Similarly, Claims 7 and 17 define the aperture as "a plurality of apertures, each of which accommodates independent movement of one of the second ends of the conductors."

Claims 8 and 18 mirror that language of Claim 21 and are likewise allowable. Moreover, Claims 9, 19, and 25 define the support layer as "a plurality of fingers, each of which extends into one of the plurality of apertures for providing additional support for a respective one of the second ends of the conductors, such that the fingers are impedance groomed with respect to the second ends of the conductors." *Itoh's* slits do not satisfy these numerous additional elements since it discloses no fingers, its conductors are spaced apart from its slits, and it is not impedance

groomed. Finally, Claims 10, 20, and 26 require the insulation layer to have "an opening and a plurality of insulation pads formed in the opening for preventing contact between the support layer and the second ends of the conductors." *Itoh's* slits are separate and spaced apart from its conductors and insulators, so they cannot be "formed in the opening."

It is respectfully submitted that the claims are in condition for allowance and favorable action is requested. No fee for an extension of time or other fees are believed to be required. However, in the event that one or more fees are required, please charge them to **Hitachi Global Storage Technologies' Deposit Account Number 50-2587.**

Respectfully submitted,



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